

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A surgical access device, comprising:
an elongate tubular member having a working channel and an axis extending between a proximal end and a distal end;
a septum seal integrally formed at the distal end of the tubular member, the septum seal comprising an elastomeric sheet and an aperture orifice through the elastomeric sheet, the aperture orifice configured to receive an instrument; and
a zero seal disposed at the distal end of the tubular member and distal to the septum seal, the zero seal being sized and configured to seal when no instrument is in place within the working channel of the tubular member, and the zero seal being coupled to the septum seal.
2. (Original) The surgical access device of claim 1, wherein the tubular member is formed from an elastomeric material.
3. (Original) The surgical access device of claim 1, wherein the zero seal is a duckbill seal constructed with an intersecting sealing portion.

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

4. (Original) The surgical access device of claim 1, wherein the zero seal is a double duckbill seal constructed with two or more intersecting sealing portions

5. (Original) The surgical access device of claim 1, further comprising a retaining portion at the proximal end of the tubular member.

6. (Original) The surgical access device of claim 5, wherein the retaining portion is a flange or a ring.

7. (Original) The surgical access device of claim 1, wherein the tubular member and the septum seal are molded together as a single unit.

8. (Original) The surgical access device of claim 7, wherein the zero seal is bonded, fused or over-molded with the septum seal.

9. (Original) The surgical access device of claim 1, wherein the tubular member, the septum seal and the zero seal are molded together or integrally formed as a single unit.

10. (Withdrawn) The surgical access device of claim 1, wherein the tubular member further comprises flexibility enhancing features to allow the tubular member to

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

flex in response to a motion of a surgical instrument within the working channel of the tubular member.

11. (Withdrawn) The surgical access device of claim 10, wherein the flexibility enhancing features are formed around the distal end of the tubular member.

12. (Withdrawn) The surgical access device of claim 10, wherein the flexibility enhancing features are formed along the tubular member.

13. (Withdrawn) The surgical access device of claim 10, wherein the flexibility enhancing features provide a floating motion to the septum seal and the zero seal.

14. (Withdrawn) The surgical access device of claim 1, further comprising a second septum seal disposed at or near the proximal end of the tubular member.

15. (Withdrawn) The surgical access device of claim of claim 14, wherein the second septum seal provides leak protection in the event that the septum seal is overstressed or damaged.

16. (Withdrawn) The surgical access device of claim 14, further comprising a second zero seal disposed at or near the proximal end of the tubular member distal to

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

the second septum seal, wherein the second zero seal is being sized and configured to seal when no instrument is in place within the working channel of the tubular member.

17. (Withdrawn) The surgical access device of claim 1, wherein the tubular member has at least one section that gradually tapers to facilitate placement of the access device through a body wall.

18. (Withdrawn) The surgical access device of claim 1, wherein the tubular member includes at least one region having a reduced wall section or thickness.

19. (Withdrawn) The surgical access device of claim 18, wherein the reduced thickness region is at or near the distal end of the tubular member.

20. (Original) The surgical access device of claim 1, further comprising a placement device for placing the access device.

21. (Original) The surgical access device of claim 20, wherein the placement device is an obturator operable to pierce or penetrate tissue.

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

22. (Original) The surgical access device of claim 20, wherein the placement device includes an elongate shaft having a proximal end, a mid-portion and a distal end.

23. (Previously presented) The surgical access device of claim 22, wherein the proximal end of the elongate shaft includes a handle sized and configured to be held by a user.

24. (Previously presented) The surgical access device of claim 22, wherein the mid-portion of the elongate shaft has a reduced profile and is sized and configured to extend through the tubular member.

25. (Previously presented) The surgical access device of claim 22, wherein the distal end of the elongate shaft is shaped like an hourglass.

26. (Previously presented) The surgical access device of claim 22, wherein the distal end of the elongate shaft comprises a tapered, cone-shaped member.

27. (Withdrawn) The surgical access device of claim 22, further comprising a venting lumen within the shaft of the placement device providing fluid communication between the distal end and the proximal end of the placement device.

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

28. (Withdrawn) The surgical access device of claim 20, further comprising an elastomeric shield member sized and configured to fit over the shaft of the placement device.

29. (Withdrawn) The surgical access device of claim 28, wherein as the placement device is withdrawn, the elastomeric shield member everts and is drawn into distal openings of the septum seal and the zero seal.

30. (Withdrawn) The surgical access device of claim 1, wherein the tubular member has a rigid or semi-rigid wall.

31. (Withdrawn) The surgical access device of claim 1, wherein the tubular member is reinforced with a coil along a portion of the tubular member.

32. (Withdrawn) The surgical access device of claim 31, wherein the reinforced portion terminates adjacent to a distal seal portion.

33. (Withdrawn) The surgical access device of claim 31, wherein the tubular member includes a distal, mechanically deployable shielding portion.

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

34. (Original) The surgical access device of claim 3, wherein the duckbill seal comprises opposing lip portions separated by a slit portion.

35. (Original) The surgical access device of claim 34, wherein the opposing lip portions are coated with or attached to a soft or occlusive material providing back pressure forcing the lip portions to close even when the duckbill seal is slightly open.

36. (Previously presented) The surgical access device of claim 35, wherein the occlusive material is one of silicone, Kraton, and polyurethane.

37. (Previously presented) The surgical access device of claim 35, wherein the opposing lip portions allow a surgical item to extend through the slit portion without disrupting a seal formed by the closure of the opposing lip portions.

38. (Original) The surgical access device of claim 37, wherein the surgical item is a surgical suture.

39-47. (Canceled)

48. (Withdrawn) A surgical access device, comprising:

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

an elongate tubular member having a working channel and an axis extending between a proximal end and a distal end;
a septum seal integrally formed at the proximal end of the tubular member; and
a zero seal disposed at the proximal end of the tubular member and distal to the septum seal, the zero seal being sized and configured to seal when no instrument is in place within the working channel of the tubular member, and the zero seal being coupled to the septum seal and having properties to float with the septum seal relative to the tubular member.

49. (Withdrawn) The surgical access device of claim 48, wherein the tubular member and the septum seal are molded together as a single unit.

50. (Withdrawn) The surgical access device of claim 49, wherein the zero seal is bonded or fused to the septum seal.

51. (Withdrawn) The surgical access device of claim 48, wherein the tubular member, the septum seal and the zero seal are molded together or integrally formed as a single unit.

52. (Withdrawn) The surgical access device of claim 48, wherein the tubular member is formed from an elastomeric material.

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

53. (Withdrawn) A surgical access device, comprising:
 - an elongate tubular member having a working channel and an axis extending between a proximal end and a distal end; and
 - a seal at the distal end of the tubular member, the seal being sized and configured to form a seal with an instrument when an instrument is in place within the working channel of the tubular member and to form a zero seal when no instrument is in place within the working channel of the tubular member.
54. (Withdrawn) The surgical access device of claim 53, wherein the tubular member is formed from an elastomeric material.
55. (Withdrawn) The surgical access device of claim 53, the seal having a duckbill configuration constructed with an intersecting sealing portion.
56. (Withdrawn) The surgical access device of claim 53, the seal having a double duckbill configuration with two or more intersecting sealing portions.
57. (Withdrawn) The surgical access device of claim 53, further comprising a retaining portion at the proximal end of the tubular member.

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

58. (Withdrawn) The surgical access device of claim 57, wherein the retaining portion is a flange or a ring.
59. (Withdrawn) The surgical access device of claim 53, wherein the tubular member and the seal are molded together as a single unit.
60. (Withdrawn) The surgical access device of claim 53, wherein the tubular member and the seal are integrally formed as a single unit.
61. (Withdrawn) The surgical access device of claim 53, further comprising a placement device for placing the access device.
62. (Withdrawn) The surgical access device of claim 61, wherein the placement device is an obturator operable to pierce or penetrate tissue.
63. (Withdrawn) The surgical access device of claim 61, wherein the placement device includes an elongate shaft having a proximal end, a mid-portion and a distal end.
64. (Withdrawn) The surgical access device of claim 61, wherein the proximal end includes a handle sized and configured to be held by a user.

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

65. (Withdrawn) The surgical access device of claim 61, wherein the mid-portion has a reduced profile and is sized and configured to extend through the tubular member.

66. (Withdrawn) The surgical access device of claim 61, wherein the distal end is shaped like an hourglass.

67. (Withdrawn) The surgical access device of claim 61, wherein the distal end comprises a tapered, cone-shaped member.

68. (Withdrawn) The surgical access device of claim 55, wherein the duckbill seal comprises opposing lip portions separated by a slit portion.

69. (Withdrawn) The surgical access device of claim 68, wherein the opposing lip portions are coated with or attached to a soft or occlusive material providing back pressure forcing the lip portions to close even when the duckbill seal is slightly open.

70. (Withdrawn) The surgical access device of claim 69, wherein the occlusive material is one of Kraton or polyurethane.

Appl. No. 10/807,974
Dated: August 17, 2009
Reply to Office action of May 15, 2009

71. (Withdrawn) The surgical access device of claim 69, wherein the occlusive lip portions allow a surgical item to extend through the slit portion without disrupting the seal.

72. (Withdrawn) The surgical access device of claim 71, wherein the surgical item is a surgical suture.

73. (Canceled)

74. (Previously presented) The surgical access device of claim 1, wherein the elastomeric sheet comprises a generally conical profile.

75. (Currently amended) The surgical access device of claim 1, wherein the aperture orifice comprises a hole.

76. (Currently amended) The surgical access device of claim 1, wherein the aperture orifice comprises a piercing.